

irregular, shallow, angulate punctures and lines, sparsely clothed with short brown pile. *Beneath* sparsely punctate and pilose; all femora wide, compressed, anterior tibiae moderately convex, middle and posterior tibiae compressed, all tibiae subpedunculate, anterior pair bidentate externally, middle and hind pairs with acute tooth about middle of outer edge, tarsi short, rounded, segments subequal; pygidium large subcylindrical, irregularly lined on surface.

Length 10 mm., width 4.1 mm.

Holotype male in the collection of the United States National Museum, collected by H. F. Wickham at Durango, Mexico. Paratype male collected at Tlalnepantla, Mexico, by O. W. Barrett in the author's collection.

This species most closely resembles *C. saucia* Lec. but can be readily distinguished by its more robust shape, opaqueness, irregular sculpturing throughout, and by its lateral deeply excavated hind pronotal margin.

SOME REFLEX RESPONSES OF *RANATRA FUSCA* TO CONTACT STIMULI.

BY CYRIL E. ABBOTT, Searcy, Ark.

The following notes, made some years ago, on the reflex responses of normal and amputated specimens of *Ranatra fusca* may prove of interest to students of insect physiology.

While swimming, *Ranatra* moves each pair of legs in unison; but each pair moves *alternately* with the other pair; that is, as one pair moves forward, the other pair moves back. Often the raptorial legs are alternately extended and flexed. When stroked, the fore legs are stiffened, extended forward; excepting the terminal segment of each leg, which is flexed. At the same time, the remaining legs are extended forward.

This "reaching" response of the middle and last legs disappears when the nerve cord is cut through in the prothoracic region. Both normal specimens and those with severed cord swim forward when the body or breathing tubes are touched.

Destruction of the thoracic ganglion results in cessation of all response in the meso- and metathoracic legs, but leaves the motions of the head and prothoracic legs unaffected.

When placed upon a solid, level surface, specimens completely amputated at the prothorax exhibit tetany; the animal remaining elevated, with only the tarsi and breathing tubes in contact with the

substratum, the middle legs slightly flexed at the femoro-tibial joint. When stroked, the middle legs are elevated and extended forward. The metathoracic legs, when stroked, are extended *without* being elevated, so that the animal resembles a tripod: this reaction may accompany the elevation of the mesothoracic legs if the two pairs are stroked in rapid succession.

Stimuli applied to any part of the amputated prothorax and head result in complete flexure of the fore legs.

Headless specimens (the wound sealed with collodion) live for several days, performing normal swimming movements. Such specimens are more sensitive to contact than are normal specimens, often swimming for hours; even when quiet a slight stimulus results in active swimming movements. Similarly, the proboscis of a specimen amputated at the prothorax moves from side to side for long periods, resuming this act on when stimulated either by contact or chemically.

When a few drops of dilute acetic acid are added to a small tank containing a headless specimen, the latter rubs the raptorial legs over one another, as if to remove irritation. Normal, unamputated specimens never exhibit this behavior, even when the concentration of acid is several times that which produces the reaction in headless specimens.

CALYCOPIS BEON (CRAMER), A NEW BUTTERFLY RECORD FOR THE UNITED STATES (LEPI- DOPTERA-LYCAENIDAE).

BY WILLIAM D. FIELD, Lawrence, Kans.*

The writer recently has had the opportunity of studying long series of *Calycopis beon* (Cramer) from various localities in Texas. This species has never before been recorded north of Jalapa in Vera Cruz in eastern Mexico or Mazatlán in Sinaloa on the west coast of Mexico. The similarity of *C. beon* (Cramer) to *C. cecrops* (Fabricius) and the apparent abundance of *beon* in Texas leads the writer to the conclusion that *beon* has long been present in Texas but has heretofore passed for *cecrops*.

Short descriptions of *cecrops* and *beon* are given below for comparative purposes.

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